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| 10/767,843 | 01/29/2004 | James A. Proctor JR. | TAN-2-1408.01.US | 2970 |
| 24374 7590 12/08/2009 VOLPE AND KOENIG, P.C. DEPT. ICC UNITED PLAZA, SUITE 1600 30 SOUTH 17TH STREET PHILADELPHIA, PA 19103 | | | | |
| EXAMINER | | | | |
| MURPHY, RHONDA L | | | | |
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| 2462 | | | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/767,843

Applicant(s)

PROCTOR, JAMES A.

Examiner

RHONDA MURPHY

Art Unit

2462

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/30/09.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 and 22-41 is/are pending in the application.
- 4a) Of the above claim(s) 22-41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB-08)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Election/Restrictions

1. Newly submitted claims 22-41 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Independent claims 22, 29 and 35 are directed to first and second modes to communicate with a base station using first and second CDMA codes, wherein in the second mode, the subscriber unit uses a first time slot used by a first plurality of subscriber units and the first plurality of subscriber units communicate in separate time slots. These claims are distinct from the original claims which recite in part, receiving reverse link signals including a common code and unique orthogonal code, a correlator coupled to the receiver and associating a metric with each reverse link signal, a selector coupled to correlator that selects the received reverse link signal associated with the metric, and a timing controller coupled to the selector that determines a gross timing offset to align the selected reverse link signal with other signals from other subscriber units using the common code with a common phase.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 22-41 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Response to Arguments

2. Applicant's arguments, see page 11, filed 7/30/09, with respect to the rejection(s) of claims 1 and 11 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of a newly found prior art reference.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 5 – 7, 11, 12 and 15 – 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. (US 6,324,160) in view of Giallorenzi et al. (US 6,332,008) and Hao et al. (US 7,272,163).

Regarding claims 1 and 11, Martin teaches an apparatus and method for controlling timing of a reverse link signal from a subscriber unit comprising: a receiver (Fig. 1; antenna 10) that receives a plurality of reverse link signals (col. 2, lines 55-63), wherein each said signal includes a unique orthogonal code (Walsh code, col. 3, lines 2-5); a correlator (32) coupled to the receiver that associates a metric with each of the received reverse link signals (col. 4, lines 19-32; power as a metric); a selector (37) coupled to the correlator that selects the received reverse link signal associated with a best metric

(col. 4, lines 42-46; strongest signal components); and a timing controller (circuit 22) coupled to the selector that determines a gross timing offset of the selected reverse link signal to align the selected reverse link signal using a common phase (col. 3, lines 29-43, 57-64; col. 4, lines 1-2).

Martin fails to explicitly disclose aligning reverse link signals from other subscriber units.

However, Giallorenzi teaches aligning reverse link signals from other subscriber units in col. 9, lines 33-49 and further described in col. 12, lines 18-48.

In view of this, it would have been obvious to one skilled in the art to modify Martin's system by aligning signals from other subscriber units, so as to enable proper operation of the synchronous communication system.

Martin fails to explicitly teach a *common code*, however common codes are well known in the art.

Hao teaches using a *common code* (col. 2, lines 24-25; PN sequence) and unique orthogonal codes.

Therefore, it would have been obvious to one skilled in the art to include a common code for the purpose of associating the signals with a particular code that is common to the coverage area.

Regarding claims 2 and 12, Martin teaches the apparatus and method according to claims 1 and 11 wherein the timing controller determines a fine timing offset and causes a fine phase adjustment of the common code of the selected reverse link signal (col. 3, lines 29-43).

Regarding claims 5 and 15, Martin teaches the apparatus and method according to claims 1 and 11 wherein the selector determines whether a reception quality criterion is met (col. 4, lines 42-46; strongest signal components) and, if met, causes the timing controller to align an unaligned reverse link signal from the given subscriber unit with reverse link signals from other subscriber units (col. 3, lines 29-43).

Regarding claims 6 and 16, Martin teaches the apparatus and method according to claims 5 and 15 wherein the reception quality criterion includes at least one of the following: (a) the metric of an un-aligned reverse link signal exceeds a threshold for a predetermined timespan, (b) the metric of an un-aligned reverse link signal exceeds a threshold relative to the best metric for a predetermined timespan, (c) the best metric drops below an absolute metric, and (d) the metric of an un-aligned reverse link signal exceeds an absolute metric (col.3, lines 29-53).

Regarding claims 7 and 17, Martin teaches the apparatus and method according to claims 6 and 16 wherein the metrics include at least one of the following: (a) power, (b) SNR, (c) variance of the power, (d) variance of the SNR, (e) relative ratio of the power, SNR, or variance of two paths, (f) bit error rate, and (g) energy per chip divided by the interference density (E_c/I_o) (col. 4, lines 26-32; power).

3. Claims 3, 4, 8 - 10, 13, 14 and 18 - 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin, Giallorenzi and Hao as applied to claims 1 and 11 above, and further in view of Hadad (US 2007/0076583 A1).

Regarding claims 3, 4, 13 and 14, Martin and Hao teach the apparatus and method according to claims 1 and 11, but fail to explicitly disclose wherein the timing controller provides the gross timing offsets to the subscriber unit in the form of a timing command or report.

However, Hadad teaches wherein the timing controller provides the gross timing offsets to the subscriber unit in the form of a timing command (page 12, paragraph 269).

In view of this, it would have been obvious to one skilled in the art to provide timing offset information to the subscriber in the form of a command or report, for the purpose of correcting its alignment.

Regarding claims 8 and 18, Martin and Hao teach the apparatus and method according to claims 1 and 11 further including a power controller (circuits 35 and 36) that determines a power level of the aligned reverse link signal (col. 4, lines 26-32).

Martin fails to explicitly disclose providing feedback of the power level to the subscriber unit.

However, Hadad teaches disclose providing feedback of the power level to the subscriber unit (page 13, paragraphs 285).

In view of this, it would have been obvious to one skilled in the art to provide feedback of the power level to the subscriber, in order for the subscriber to transmit at a power level that allows for more efficient processing at the base station.

Regarding claims 9, 10, 19 and 20, Martin and Hao teach the apparatus and method according to claims 8 and 18, but fail to explicitly wherein the power controller provides the power level to the subscriber unit in the form of a power command or report.

However, Hadad teaches wherein the power controller provides the power level to the subscriber unit in the form of a power command (page 13, paragraph 285).

In view of this, it would have been obvious to one skilled in the art to provide the power level to the subscriber in the form of a command or report, for the purpose of notifying the subscriber of an appropriate power level to transmit.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RHONDA MURPHY whose telephone number is (571)272-3185. The examiner can normally be reached on Monday - Friday 9:00 - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Rhonda Murphy
Examiner
Art Unit 2462

/R. M./
Examiner, Art Unit 2462

/Kevin C. Harper/
Primary Examiner, Art Unit 2462